

SECTION III—REMARKS

This amendment is submitted in response to the Office Action mailed July 5, 2006. Claims 31 and 36 are canceled and independent claims 29 and 34 are amended. Claims 29-30, 32-35 and 37-38 remain pending in the application. Applicants respectfully request reconsideration of the application and allowance of all pending claims in view of the above amendments and the following remarks.

Rejections Under 35 U.S.C. § 102

The Examiner rejected claims 29-31 as anticipated under 35 U.S.C. § 102(b) by U.S. Patent No. 6,307,447 to Barber *et al.* (“*Barber*”). Applicants respectfully traverse the Examiner’s rejections. A claim is anticipated only if each and every element, as set forth in the claim, is found in a single prior-art reference. MPEP § 2131; *Verdegaal Bros. v. Union Oil of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). For at least the reasons explained below, *Barber* cannot anticipate these claims because it does not disclose every element and limitation recited therein.

Amended claim 29 recites a micro resonator combination including:

an oscillator member comprising a vibrating portion supported by a pedestal; and

an ablative structure disposed on the vibrating portion, the ablative structure comprising a pattern of spaced-apart stacks, each spaced-apart stack being separated from the oscillator member by a protective pad.

(italics added). *Barber* does not disclose, teach or suggest a combination including the recited limitations. As shown in Fig. 3, *Barber* teaches a plurality of separate piezoelectric resonators 30, 32 and 34 fabricated on a single wafer. Each resonator comprises a piezoelectric layer sandwiched between top and bottom electrodes. Conductive layers 40, 41 and 44 serve as top electrodes for resonators 30, 32 and 34, respectively. Resonators 30 and 34 are designed to have the same resonant frequency, while resonator 32 is to have a different resonant frequency. Thus, layer 46 is deposited on top electrode 41 as an adjustment layer which may be etched to adjust the resonant frequency of the resonator (col. 6, lines 33-42).

Barber does not disclose the claimed combination because *Barber* does not teach a pattern of spaced-apart stacks disposed on the vibrating portion of a resonator. It is well-known in the art that in piezoelectric resonators such as the resonators in *Barber*, the only vibrating portion is the portion between electrodes. Thus, in *Barber* each piezoelectric resonator has only one vibrating portion, and each vibrating portion has formed thereon only a **single** “stack,” rather than a pattern of spaced-apart stacks. *Barber* therefore cannot disclose, teach or suggest an oscillator member including “an ablative structure disposed on the vibrating portion, the ablative structure comprising a pattern of spaced-apart stacks.” Applicants submit that claim 29 is therefore in condition for allowance and respectfully request withdrawal of the rejection and allowance of the claim.

Regarding claims 30-31, if an independent claim is allowable then any claim depending therefrom is also allowable. *See generally* MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As discussed above, claim 29 is in condition for allowance. Applicants submit that claims 30-31 are therefore allowable by virtue of their dependence on an allowable independent claim, as well as by virtue of the features recited therein. Applicants therefore respectfully request withdrawal of the rejection and allowance of these claims.

Rejections Under 35 U.S.C. § 103

The Examiner rejected claims 32-38 under 35 U.S.C § 103(a) as obvious in view of, and therefore unpatentable over, different combinations of *Barber*, U.S. Patent No. 3,683,213 to Staudte (“*Staudte*”), U.S. Patent No. 4,443,729 to Rider (“*Rider*”) and U.S. Patent No. 6,049,157 to Kobayashi (“*Kobayashi*”). In particular, the Examiner rejected claims 34-36 as unpatentable over *Barber* in view of *Staudte*, rejected claims 32 and 37 as unpatentable over *Barber* in view of *Rider* and rejected claims 33 and 38 as unpatentable over *Barber* in view of *Kobayashi*.

Applicants respectfully traverse the Examiner’s rejections. As to claims 32-33, if an independent claim is non-obvious under 35 U.S.C. § 103 then any claim depending therefrom is also non-obvious. MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As discussed above, claim 29 is in condition for allowance. Applicants submit that claims 32-33 are therefore allowable by virtue

of their dependence on an allowable independent claim, as well as by virtue of the features recited therein. Applicants therefore respectfully request withdrawal of the rejections and allowance of the claims.

As to claims 34-35 and 37-38, Applicants also respectfully traverse the Examiner's rejection. To establish a *prima facie* case of obviousness, the Examiner must establish that three criteria are met: (1) the prior art references must teach or suggest all the claim limitations; (2) some suggestion or motivation to combine the references must be found in the prior art; and (3) there must be a reasonable expectation of success. MPEP § 2143. As explained below, Applicants respectfully submit that the Examiner has not established a *prima facie* case of obviousness.

Amended independent claim 34 recites a micro resonator system comprising:

a microresonator having an input and an output
and comprising:

an oscillator member comprising a
vibrating portion suspended above a substrate
by a pedestal,

a drive electrode positioned between the
oscillator member vibrating portion and the
substrate,

*an ablative structure disposed on the
vibrating portion, the ablative structure*

comprising a pattern of spaced-apart stacks,
each spaced-apart stack being separated from
the oscillator member by a protective pad, and
an input circuit connected to the input; and
an output circuit connected to the output.

(italics added). The Examiner alleges that *Barber* discloses every element and limitation of the claim except for an oscillator member supported above a substrate by an oscillator pedestal and an output circuit connected to the output. To make up for these deficiencies in *Barber*, the Examiner cites *Staudte* and concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to combine *Barber* with *Staudte* to arrive at the claimed invention.

Applicants respectfully disagree. As discussed above for independent claim 29, *Barber* does not teach a pattern of spaced-apart stacks disposed on the vibrating portion of an oscillator member. Instead, *Barber* teaches resonators that include only a **single** “stack” disposed on each vibrating portion rather than a pattern of spaced-apart stacks. *Staudte* is directed towards a microresonator of tuning fork configuration. *Staudte* thus does not make up for the deficiencies of *Barber*, and therefore the combination of *Barber* with *Staudte* cannot obviate the claim. Applicants therefore respectfully request withdrawal of the rejection and allowance of the claim.

Regarding claims 35 and 37-38, if an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is also non-obvious. MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As discussed above, claim 34 is in condition for allowance. Applicants submit that claims 35 and 37-38 are therefore allowable by virtue of their dependence on an allowable independent claim, as well as by virtue of the features recited therein. Applicants therefore respectfully request withdrawal of the rejections and allowance of the claims.

Conclusion

Given the above remarks, all claims pending in the application are in condition for allowance. If the undersigned attorney has overlooked a teaching in any of the cited references that is relevant to allowance of the claims, the Examiner is requested to specifically point out where such teaching may be found. Further, if there are any informalities or questions that can be addressed via telephone, the Examiner is encouraged to contact the undersigned attorney at (206) 292-8600.

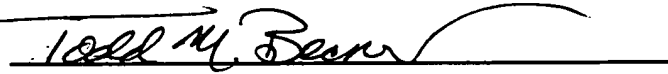
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Respectfully submitted,

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Date: 10-5-06



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